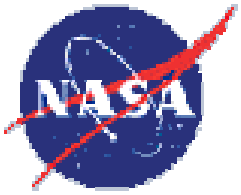

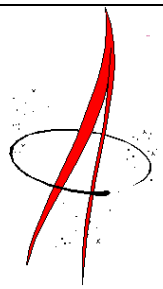

NASA Academy 2002 at Goddard Space Flight Center

Basic Information and Guidelines

for the

Hosts, Guides, and Mentors

of the

2002 NASA Academy Research Associates

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1. What Is the NASA Academy?

The NASA Academy at Goddard Space Flight Center (GSFC) is a unique, intensive institution of higher learning available during ten summer weeks to selected, high-ranking students from the fifty states of the USA, the District of Columbia, and Puerto Rico, interested in pursuing professional and leadership careers in aerospace-related fields. The Academy is dedicated to promoting current and future opportunities for innovation and leadership.

Sponsorship of the NASA Academy is shared by the National Space Grant College and Fellowship Program and the participating NASA Centers.

In 2002, the GSFC Academy will be in session from June 2 to August 9. This year, the Academy will celebrate a decade of successful activity.

Until now, 336 students have graduated from the NASA Academy programs at the NASA Goddard, Ames, Dryden, and Marshall Centers. Of these, 35% are currently employed in the space industry, 46% are still pursuing their education (with more than one third engaged in Ph.D. programs), and 8% are active in professions outside space R&D (medical, engineering, legal, business). Updated records are not available for 11% of the graduates.

2. Who Are the NASA Academy Participants (Academy Research Associates)?

The Academy participants are selected in rigorous competition from the pool of **junior and senior-undergraduate** and **first-year-graduate** students that have demonstrated serious interest in space-related careers. Acceptance into the program is based on academic performance (GPA), maturity, leadership qualities, and recommendations from faculty, academic supervisors, and co-workers. The students are endorsed by their regional Space Grant Consortia, which also contribute to the financial expenses of participants.

In March 2002, an eighteen-member Selection Committee, representing the NASA Headquarters, academia, and the NASA Academy Alumni Association, screened 83 applicants and selected 16 outstanding students with the following college majors or graduate degree program areas:

- physics
- mathematics
- astronomy
- mechanical and aerospace engineering
- electrical engineering
- computer science and engineering
- environmental engineering
- earth and planetary science, and
- science education.

The selected Academy participants are already accomplished learners and workers. Their combined group average academic GPA exceeds 3.6/4.0. For illustration, some of their achievements are listed below:

- flying (together with their own science experiments) on the NASA KC-35 microgravity airplane
- creating flight-certified electronic circuits for sounding rocket payloads
- using remote sensing and GIS (Geographic Information Systems) for cultural preservation projects of the Confederated Salish & Kootenai Indian Preservation Office
- operating the John Hopkins University telescope
- operating heavy equipment in the gold mines of Alaska
- etc.

This body of students comes to the NASA Goddard Academy with high motivation, ambition, and expectations. A few of them have chosen the Goddard Academy experience against other scholarship and internship offers from institutions in the USA and Europe.

3. Main Objectives of the NASA Academy Program

- To introduce the students to top-ranking leaders in research, engineering, and administration within the NASA Agency and relevant laboratories, colleges and universities, and industrial organizations;

- To inform the students about the strategic vision, mandate, and roadmap of NASA, in its activities focused on studies of the space and the Earth;

- To inform the students about the major current and planned science, engineering, and technology projects at GSFC and other NASA Centers;

- To provide opportunities for direct participation in supervised laboratory and/or field research work, under the mentorship of GSFC scientists and their associates;

- To sponsor creativity, initiative, and the development of team-work qualities;

- To provide a forum for observing and learning fundamental areas of business administration in general, and the administration of the NASA Agency in particular, with emphasis on leadership and career development, professional ethics, budgeting, management, policies and procedures, national and international issues, etc.

4. The 2002 NASA Academy Program

The 2002 NASA Academy students will participate in the following activities:

- Individual guided laboratory work
- Development of a "Group Project"
- Lectures and workshops
- Meetings with experts
- Field trips

5. Placement of NASA Academy Research Associates in GSFC Laboratories

The selected Academy Research Associates have been matched with their mentors in GSFC Laboratories, in advance of their arrival at GSFC and in accord with their mutual agreement and expressed mutual interest.

6. The "NASA Experience" and the Role of the Mentors

The national and international reputation of the NASA Academy can be credited in part to the unique relationship between the student participants and their mentors. In a relatively short time, by "watching" the mentors and their associates at work, mingling with the larger NASA scientific community, and "giving a hand" in the real work of NASA laboratories, the students acquire professional skills and work habits that may shape in unpredictable ways their professional development into the future scientists and leaders of the American space program.

Some of the NASA mentors, who may have never had previous experience in formal academic settings, may represent for the Academy students the "best" teachers they have ever had.

7. Suggested Basic Guidelines for the Mentors and Hosts of the NASA Academy Research Associates

- The mentors (Principal Investigators at GSFC, or their designated substitutes) are invited to attend the First Day Orientation Meeting on June 3, at 12:00 Noon, in the Conference Room of Building 26, second floor, Room 205. During this time, the NASA Academy Research Associates will be introduced to their respective mentors, after which lunch will be provided.

- After the meeting and lunch, the mentors escort the student Research Associates to the host laboratories, introduce them to the local team members and collaborators, discuss the work assigned to them for the entire length of their summer residence at GSFC, and orient them regarding the location of the buildings, rooms, installations and facilities related to the students' work.

- It is essentially important that the Research Associates are provided with dedicated desk space and access to telephone, computer, printer, and Internet connection facilities. If shop work or data processing and use of specific software are involved in the assigned duties, it is important that the students are initiated in such operations, know the computer "passwords", the location of necessary stockroom materials, the technical persons whom they may need to contact in order to execute and complete the assigned tasks, thus avoiding or minimizing any possible waste of time, or idle presence in the labs.

- The GSFC mentors should be aware of the time schedule of the Academy RAs. The Academy program is based on an intensive daily schedule, with three full days (Monday through Wednesday) of each week spent in supervised laboratory research work. The following days are the few exceptions when the students are on field trips or participate in various other activities:
    - Tuesday, June 9: preparation and presentation of the NASA Academy Poster Session (1:00 p.m. to 4:00 p.m., Bldg.28 atrium);
    - Wednesday, July 10: afternoon departure to the NASA Kennedy Space Center
    - Wednesday, July 24: whole day absence from the labs due to travel to the NASA Johnson Space Center.

  The remaining time of the Academy session is occupied (outside the host laboratories) with the development of the "Group Project", attendance of conferences, seminars and/or workshops, meetings with prominent experts and leaders in space organizations, and field trips or visits to other NASA Centers, Universities, and industries.

- Although most of the students possess basic skills and are self-learners, it is important that the mentors, or their designated substitutes, are available to guide them, answer their questions, or supervise their work, as needed. Equally important is that the students be involved in challenging and intense learning/training work.

- Every Tuesday and Wednesday evening, expert speakers visit the Academy students at their Residence House (the Sigma-Delta-Tau sorority house at the University of Maryland, 4516 Knox Rd., College Park, MD 20740, Tel: 301-864-8803) for dinner, followed by after-dinner presentations on various topics of interest, in a more informal setting. All GSFC mentors are cordially invited

to participate in these evening gatherings. No Residence House Dinner Presentations are scheduled on Wednesday, June 19, Wednesday, June 26, Wednesday, July 10, and Wednesday, July 24 when the Academy students are on travel.

- On Tuesday July 9, the Academy students will organize a Poster Session in the atrium area of Building 28. All the mentors, coworkers, visitors, and other interested persons are invited to attend and entertain scientific dialogs with the RA poster presenters. These conversations, and the critique from scientists and experts are very valuable for the students. Besides demonstrating their communication skills and their knowledge and familiarity with the projects, the students benefit from the comments and advice of Poster visitors, enabling them to prepare for the highly demanding Final Oral Presentation Session at the conclusion of the Academy.

- The "Final Presentation and Graduation Ceremony" will take place on Friday, August 9, from 8:30 am to 2:30 pm. Each Academy student will give a formal oral presentation of his/her research work at GSFC, followed (after a catered luncheon) by the presentation of the "Group Project". All GSFC supervisors/mentors are cordially invited to attend and evaluate all of these presentations. The GSFC Principal Investigators will also be recognized for their supervision and mentoring work.

- The Academy students are instructed in advance of the general rules and constraints valid within the NASA-GSFC perimeters, including security, driving speeds, parking, restricted access to buildings and facilities, etc. No discipline issues are expected to occur. However, the NASA Academy staff appreciates the cooperation of the mentors in sharing the responsibility for the smooth and successful unfolding of the 2002 summer NASA-Goddard Academy.

- For any issues related to the Research Associates work in your labs, please contact Dr. Irina Nelson (contact information below).

8. The NASA Academy 2002 Staff and the Staff of the University Programs Office

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References

1. http://www.hr.lanl.gov/hrstaffing/StudentPrograms/sa/Mentortoolkit.html
2. http://rcr.ucsd.edu/content/descriptions/mentoring.htm
3. http://www.hhdev.psu.edu/careers/
4. http://www.uiowa.edu/~gradcoll/researchmentor.html

Thank you, and enjoy your new student coworkers
and your 2002 NASA Academy mentoring opportunity!